



Fig. 1

09745232.11600

P8276

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202

Combine chelating organic acid buffer system and abrasive with water

204

Further combine an oxidizer

206

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Further combine a corrosion inhibitor

Fig. 2

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302

Dispense onto polishing pad a slurry having a chelating organic acid buffer system

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304

Bring wafer having unpolished copper damascene structure into contact with polishing pad

306

Polish copper to remove excess portion

15

Fig. 3

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402

Form a copper diffusion barrier layer over patterned ILD layer

404

Form a copper seed layer over copper diffusion barrier layer

406

Form a copper layer over the barrier and seed layers

408

Remove excess portion of copper layer by CMP with first slurry that includes a chelating organic acid buffer system and an oxidizer

410

Remove excess portion of copper diffusion barrier layer by CMP with second slurry that includes a chelating organic acid buffer system and excludes an oxidizer

Fig. 4

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